

The opinion in support of the decision being entered today was **not** written for publication in a law journal and is **not** binding precedent of the Board.

Paper No. 13

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte KARIN S. BICKFORD, HERBERT K. STAFFIN and
ROBERT N. ROAPER II

Appeal No. 1999-0546
Application No. 08/724,542

HEARD: OCTOBER 12, 2000

Before FRANKFORT, McQUADE and LAZARUS, Administrative Patent Judges.

LAZARUS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1 through 17 and 25. Claims 18 through 24 and 26 through 28 were withdrawn from consideration as being for a non-elected invention (see Paper No. 4, mailed December 2, 1997, page 2). These are all of the claims in this application.

We reverse.

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BACKGROUND

The appellants' invention relates to a process for removal of sand cores from cast parts (specification, p. 1). A copy of the claims under appeal is set forth in the appendix to the appellants' brief.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Crafton et al. (Crafton)	5,294,094	Mar. 15,
1994		
Bonnemasou et al. (Bonnemasou)	5,423,370	Jun. 13,
1995		

Claims 1 through 17 and 25 stand rejected under 35 U.S.C. ' 103 as being unpatentable over Bonnemasou in view of Crafton.

Rather than reiterate the conflicting viewpoints advanced by the examiner and the appellants regarding the above-noted rejections, we make reference to the examiner's answer (Paper No. 9, mailed September 25, 1998) for the examiner's complete reasoning in support of the rejections, and to the appellants'

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brief (Paper No. 8, filed May 4, 1998) for the appellants' arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to the appellants' specification and claims, to the applied prior art references, and to the respective positions articulated by the appellants and the examiner. As a consequence of our review, we make the determinations which follow.

Claim 1, the only independent claim on appeal, reads as follows:

1. A continuous process for the removal of sand cores from the internal passages and cavities of a plurality of metal castings formed by the sand cores, said sand cores being comprised of sand and a binder to maintain a required form and hardness of the sand core, said binder being thermally decomposed at an elevated temperature, which comprises;

providing a fluidized bed furnace, having a bed formed of fluidized sand maintained at a temperature sufficient to thermally decompose the binder and a freeboard space above the bed;

continuously passing in sequence through the furnace, submerged in the fluidized sand, a series of individual and

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separate metal castings containing the sand cores, said passing being at a speed to maintain individual castings in the series submerged for a period of time sufficient to thermally decompose the binder;

whereby sand from the cores, free of binder, flows freely from the individual casting to assimilate with the fluidized sand in the furnace bed.

In rejecting the appealed claims under 35 U.S.C. ' 103 as being unpatentable over Bonnemasou in view of Crofton the examiner describes each of the prior art teachings, that Bonnemasou discloses a "method of employing a fluidized bed furnace to remove sand cores from castings" and Crafton discloses a "process of continuously passing a plurality of metal castings containing sand cores through a furnace to remove the sand cores" before concluding that "[t]o employ a conveying system in the method disclosed by Bonnemasou et al. to treat a plurality of metal casting containing sand cores would have been obvious to one of ordinary skill in the art in view of Crafton et al. to reduce labor and energy costs" (the final rejection, Paper No. 4, mailed December 2, 1997, page 2). The examiner also points out that "[t]reating a plurality of metal castings containing sand cores in a continuous manner

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is suggested by Bonnemasou et al. (column 6, lines 5-8), (see *supra* text also page 2).

The appellants, in their brief, discuss the differences between Bonnemasou, Crafton and the claims on appeal. It is urged that

[w]hen these references are combined, there is no suggestion of the invention. Rather combining the references results in castings processed by Bonnemasou's method that would be moved to a conveyor belt where the sand would be dislodged from the casings to fall into a trough in the lower portion of the furnace, to be collected and conveyed to a central collection bin, for reuse. As discussed above this is not Applicant's (sic) invention (brief, pages 14-15).

At the outset we find that neither Bonnemasou or Crafton describes treatment of "a series of individual and separate metal castings" as required in claim 1 and in our opinion this feature would not result even if the combination of these prior art references would have been obvious to one of ordinary skill in the art. On this point we agree with the appellants' above-quoted argument that "[even] when these references are combined, there is no suggestion of the invention" (brief, pages 14-15).

Additionally, it is our view that in the present case the

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examiner has failed to advance any factual basis to support the conclusion that it would have been obvious to one of ordinary skill in the art to provide the modification in the manner suggested by the examiner. The Federal Circuit states that "[the] mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification." In re Fritch, 972 F.2d 1260, 1266 n.14, 23 USPQ2d 1780, 1783-84 n.14 (Fed. Cir. 1992), citing In re Gordon, 773 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984). "Obviousness may not be established using hindsight or in view of the teachings or suggestions of the inventor." Para-Ordnance Mfg. v. SGS Importers Int'l, 73 F.3d 1087, 37 USPQ 2d at 1239 (Fed. Cir. 1995), citing W. L. Gore & Assocs., v. Garlock, Inc., 721 F.2d at 1551, 1553, 220 USPQ at 311, 312-13 (Fed. Cir. 1983).

The examiner's final rejection and answer only briefly comment on the reason for suggesting the combination of Bonnemasou and Crafton. The reason given by the examiner for the combination of Bonnemasou and Crafton is "to reduce labor

and energy costs" (answer, page 3). Reduced costs may be achieved in a variety of ways (e.g. adding more castings to each batch) and we do not view the examiner's speculative cost reduction alone as providing a motivation to combine these prior art teachings so as to arrive at appellants' claimed process.

The appellants argue that "Bonnemasou suggests performing batch processing steps continuously while Appellant (*sic*) teaches continuous processing of casting without batch processing. Clearly the definition of 'continuous' in each process is different" (brief, page 7). We note the appellants' comments that "continuous" processing suggested by Bonnemasou is different from appellants' "continuous" processing in that Bonnemasou suggests sequential steps rather than appellants' process wherein "[t]he castings are continuously moving in and out of the fluidized bed... [t]here is no pause in the moving line of castings" (brief, page 7). The examiner's answer does not respond to this point and again, it is not evident to us that the examiner has provided factual support for his conclusion that the proposed

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combination would have been obvious. We observe that the continuous process of Crafton does not require the castings to be "submerged in the fluidized sand" or to maintain the submerged condition "for a period of time sufficient to thermally decompose the binder" as recited in appellants' claim 1 and we conclude that such features would not have been obvious at the time the invention was made to a person having ordinary skill in the art.

For these reasons, we shall not sustain the standing 35 U.S.C. ' 103 rejection of claim 1, or of claims 2 through 17 and 25 which depend therefrom, as being unpatentable over Bonnemasou in view of Crafton.

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CONCLUSION

To summarize, the decision of the examiner to reject claims 1 through 17 and 25 under 35 U.S.C. ' 103 as being unpatentable over Bonnemasou in view of Crafton is reversed.

REVERSED

CHARLES E. FRANKFORT)	
Administrative Patent Judge)	
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)	
)	BOARD OF PATENT
JOHN P. McQUADE)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
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RICHARD B. LAZARUS)	
Administrative Patent Judge)	

RL/jg

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